

**WHAT IS CLAIMED IS:**

1. A needle sheath assembly comprising:

a cap;

5 a wing unit including a hollow cylinder and two wings at both sides of the cylinder;

a barrel unit including a hollow barrel, a hollow, cylindrical extension at a forward end of the barrel, the extension being adapted to insert through the cylinder into the cap for coupling, and a T-shaped slot longitudinally formed on  
10 an outer surface of the barrel, a transverse bar of the slot including a right shoulder and a right cavity; and

a needle unit including a hollow plunger, a forward needle, two opposite latched members raised above an edge of a rear end, and a protrusion projected from an outer surface of the plunger wherein the protrusion is  
15 projected from the slot after inserting the needle unit in the barrel unit,

whereby removing the cap and sliding the protrusion from the transverse bar of the slot to a distal end of the slot will project the needle from the cylinder; and sliding the protrusion from the distal end of the slot to the right cavity through the right shoulder will lock the protrusion in the cavity.

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2. The needle sheath assembly of claim 1, wherein the barrel unit further comprises a slip-resistant ring formed therearound.

3. The needle sheath assembly of claim 1, wherein the transverse bar further  
25 comprises a left throat adjacent a left end, the throat being adapted to fasten the protrusion at the left end in a nonoperating position.

4. The needle sheath assembly of claim 1, wherein the protrusion comprises a curved section and a straight section having a length longer than that of the shoulder for prohibiting a leftward movement of the protrusion.
- 5 5. The needle sheath assembly of claim 1, wherein the latched members are adapted to secure to IV infusion means.
6. The needle sheath assembly of claim 1, wherein the needle unit further comprises a forward extension with the needle protruded therefrom.
- 10 7. A needle sheath assembly comprising:  
a cap;  
a wing unit including a hollow cylinder and two wings at both sides of the cylinder;
- 15 a barrel unit including a hollow barrel, a hollow, cylindrical extension at a forward end of the barrel, the extension being adapted to insert through the cylinder into the cap for coupling, and a T-shaped slot longitudinally formed on an outer surface of the barrel, a transverse bar of the slot including a bridge at a junction of a right portion thereof and a right opening; and
- 20 a needle unit including a hollow plunger, a forward needle, two opposite latched members raised above an edge of a rear end, and a protrusion projected from an outer surface of the plunger wherein the protrusion is projected from the slot after inserting the needle unit in the barrel unit,  
whereby removing the cap and sliding the protrusion from the transverse  
25 bar of the slot to a distal end of the slot will project the needle from the cylinder; and sliding the protrusion from the distal end of the slot to the right opening through the bridge will lock the protrusion in the right opening.

8. The needle sheath assembly of claim 7, wherein the barrel unit further comprises a slip-resistant ring formed therearound.

9. The needle sheath assembly of claim 7, wherein the protrusion comprises  
5 a top surface raised above each of the opening and the bridge when the protrusion is locked in the opening for prohibiting a leftward movement of the protrusion.

10. The needle sheath assembly of claim 7, wherein a left end of the  
10 transverse bar has a shape to fasten the protrusion therein in a nonoperating position.

11. The needle sheath assembly of claim 7, wherein the latched members are adapted to secure to IV infusion means.

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12. The needle sheath assembly of claim 7, wherein the needle unit further comprises a forward extension with the needle protruded therefrom.

13. The needle sheath assembly of claim 7, wherein the protrusion has a  
20 four-sided section.